## Practice problems on Summarization of Data

1. The following data represent the ages of chief justices of the U.S. Supreme Court when they were appointed.

Justice	Age
John Jay	44
John Rutledge	56
Oliver Ellsworth	51
John Marshall	46
Roger B. Taney	59
Salmon P. Chase	56
Morrison R. Waite	58
Melville W. Fuller	55
Edward D. White	65
William H. Taft	64
Charles E. Hughes	68
Harlan F. Stone	69
Frederick M. Vinson	56
Earl Warren	62
Warren E. Burger	62
William H. Rehnquist	62
John G. Roberts	50

Source: Information Please Almanac

- (a) Determine the population mean, median, and mode ages.
- (b) Determine the range and population standard deviation ages.
- (c) Obtain two simple random samples of size 4, and determine the sample mean and sample standard deviation ages.
- 2. Number of Tickets Issued As part of a statistics project, a student surveys 30 randomly selected students and asks them how many speeding tickets they have been issued in the past month. The results of the survey are as follows:

1	1	0	1	0	0
0	0	0	1	0	1
0	1	2	0	1	1
0	0	0	0	1	1
0	0	0	0	1	0

- (a) Draw a frequency histogram of the data and describe its shape.
- (b) Based on the shape of the histogram, do you expect the mean to be more than, equal to, or less than the median?
- (c) Determine the mean and the median of the number of tickets issued.
- (d) Determine the mode of the number of tickets issued.

3. Ever wonder how many words are in a typical inaugural address? The data in the next column represent the length of all the presidents up to Donald Trump.

1425	1125	1128	5433	2242	2283
135	1172	1337	1802	2446	1507
2308	3838	2480	1526	2449	2170
1729	8445	2978	3318	1355	1571
2158	4776	1681	4059	1437	2073
1175	996	4388	3801	2130	2406
1209	3319	2015	1883	1668	2137
3217	2821	3967	1807	1087	
4467	3634	2217	1340	2463	
2906	698	985	559	2546	

Source: infoplease.com

You will get the data On Canvas, under folder named "Data".

- a. Determine the mean and median number of words in a presidential inaugural address.
- b. Determine and interpret the quartiles for the number of words in a presidential inaugural address.
- c. Determine the five number summary of words of a presidential inaugural address.
- d. Determine the standard deviation and Interquartile range for the words in a presidential inaugural address.
- e. Are there any outliers in the dataset?
- f. Draw a boxplot of the data.
- g. Describe the shape of the data. Support your position using the boxplot and quartiles.
- h. Which measure of central tendency you think better describes the typical number of words in a presidential inaugural address.
- i. Which measure of dispersion do you think would better describe the spread of the typical number of words in a presidential inaugural address?